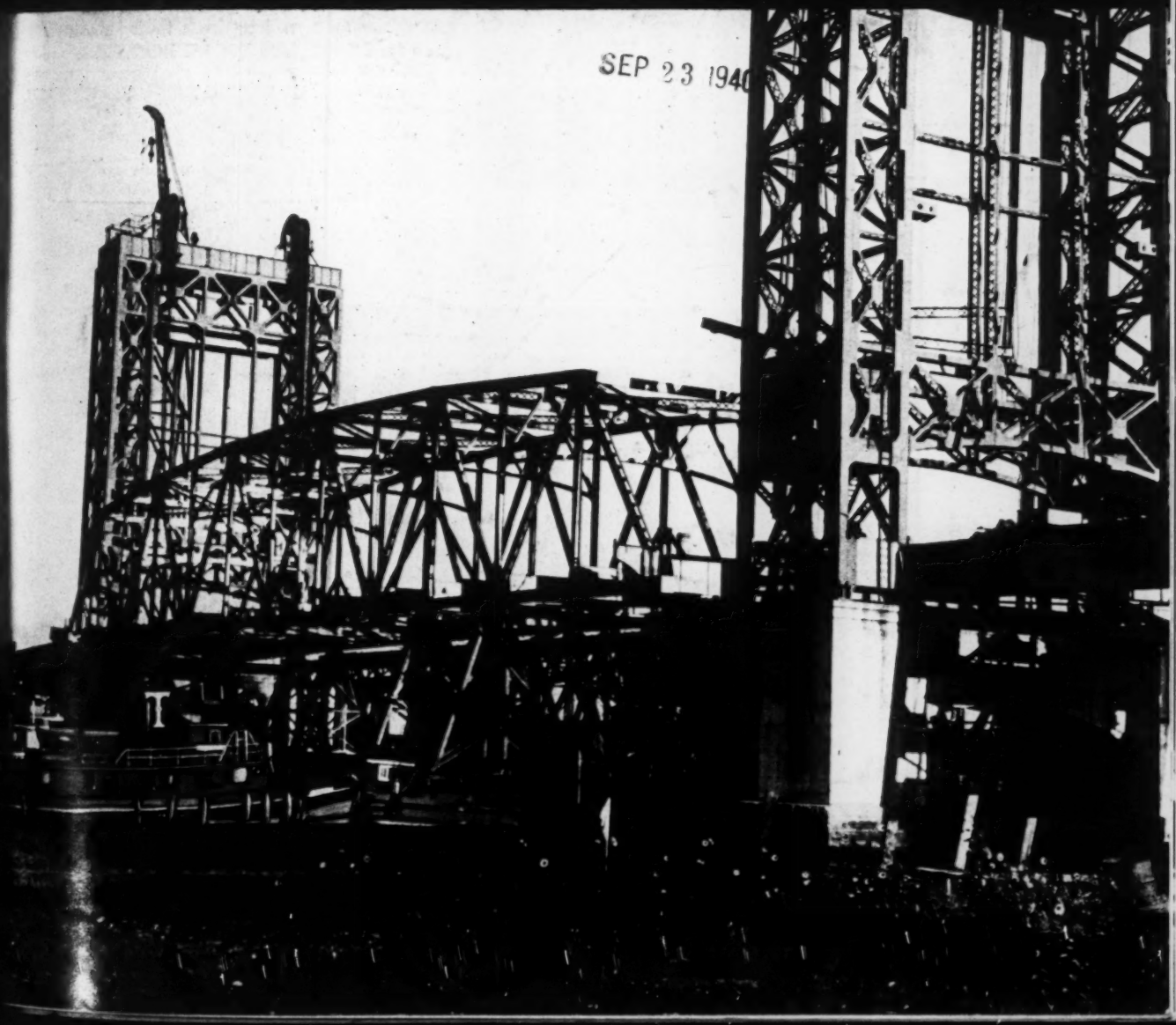
ENGINEERING NEWS-RECORD

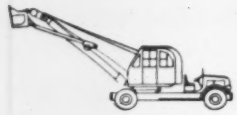
Passaic River lift span floated into New Jersey-New York truck route—*See page 3*



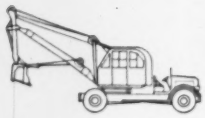
"It's Our Standby!

says Madden & Lane, Inc., of their

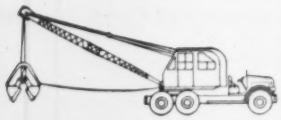
MICHIGAN TRUCK CRANE



SINGLE AXLE



FOUR-WHEEL DRIVE



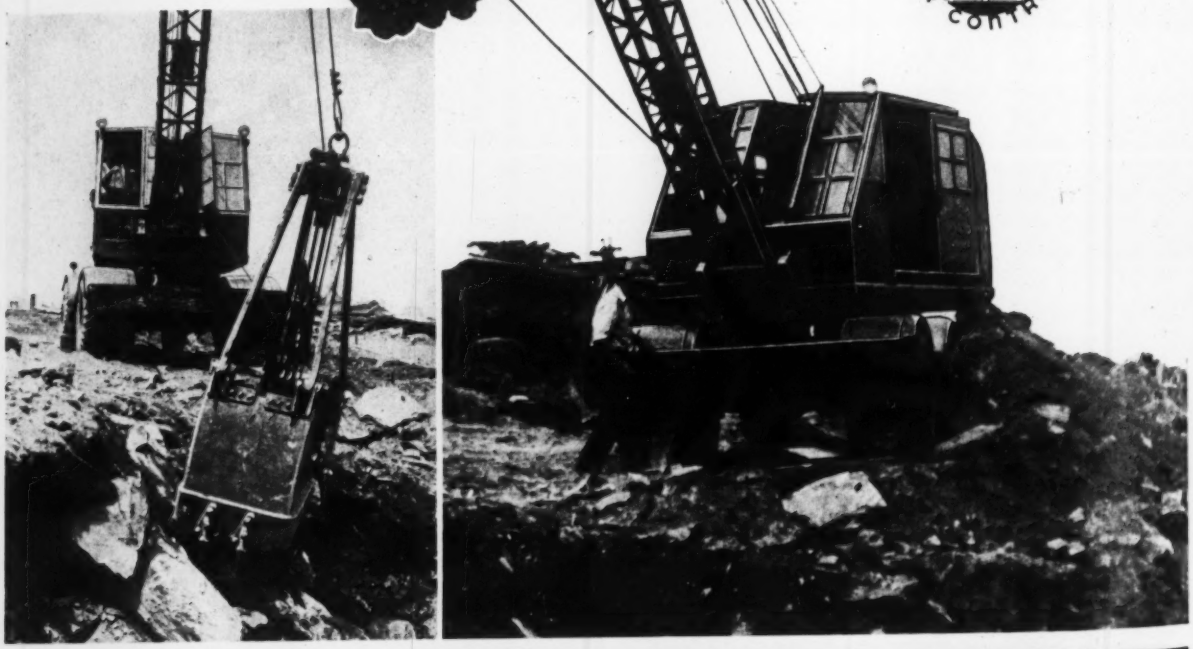
DUAL TANDEM DRIVE

FINGERTIP AIR CONTROLS and QUICK CHANGE-OVER to all regular attachments are standard on all models of the highly mobile MICHIGAN.

"We bought the Michigan two years ago, for complete crane, shovel and back-hoe service," says R. M. Johnson, Madden & Lane, Inc., general contractors, Long Island City. "It has taken out foundations for buildings, rigged as shovel or crane. The back-hoe has handled trenches for sewers and water mains. We are very well satisfied. On the East River Drive in New York we worked the Michigan back-hoe on trenches, encountering boulders, old bulkheads and a variety of hard digging. The machine is equipped with ½ yd. clamshell, ½ yd. shovel and back-hoe dippers. It has stood up well."

This season, join the ranks of MICHIGAN owners who are reaping greater profits from their small scattered jobs as well as from their larger ones. Write for MICHIGAN WORK BOOK E-90 *today* —find out why *you* could make *more* money with MICHIGAN TRUCK SHOVELS CRANES.

MICHIGAN
AIR CONTROLS



MICHIGAN POWER SHOVEL CO., BENTON HARBOR, MICH., U.S.A.

America's Truck Shovel Specialists

The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • SEPTEMBER 19, 1940

Conscription brings request for more construction funds

Defense Commission's price stabilization division moves against lumber cost rise as cantonment building begins

In asking Congress for two billion dollars to finance conscription and other defense operations, the President included requests for $506,966,000 of construction money plus some part of $180,000,000 to be used for munitions plants. Biggest item is $359,020,000 for construction, mostly temporary barracks, at Army posts.

For maintenance and construction of permanent barracks and officers quarters $29,500,000 is asked. Also included is $1,729,000 for hospital construction and $3,000,000 to permit the Bureau of Yards and Docks to start a $10,000,000 drydock in New York. A somewhat mysterious request is made for an appropriation of $80,000,000 for the Civil Aeronautics Administrator for construction of airfields "in the United States and elsewhere." These fields, which must be certified as essential to the national defense, are to be used for location of tactical units and for training of pilots. Whether these will be joint civil-military fields around the country or whether, as some suggest, this may represent a start on construction at the newly acquired Atlantic bases, is not yet clear.

Lumber demand uncertain

No one seems to have determined what the real demand for lumber is going to be. The Navy program will require about 400,000,000 board-feet. Army is compiling no figures, and the Defense Commission has not worked up anything on the full program. The Army program of temporary (i.e. wood) construction amounts to about $488,000,000. Of this sum, some $70,000,000 has been definitely allocated to projects. These projects, representing roughly a seventh of the total program, will call for about a quarter billion board feet. This would seem to indicate a total military demand in the neighborhood of two and a quarter billion feet.

The lumber industry, operating at about 75 per cent of capacity, now produces 28 billion board ft. annually. The military demand, of course, will fall in certain specialized classes—about 37 per cent sheathing, 10 per cent siding, 15 per cent flooring and wainscotting, and 38 per cent dimension and framing.

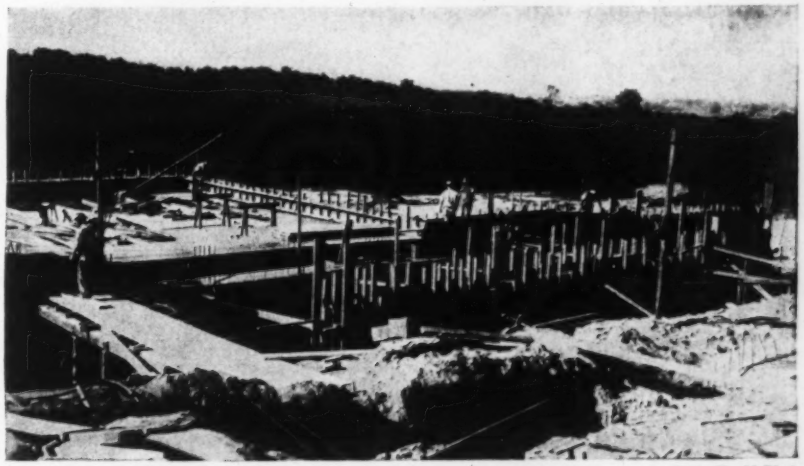
Lumber up on pyramiding of inquiries

Commissioner Leon Henderson stated last week that recent increases in the price of lumber "have been due to unfounded rumors of actual defense needs" and, by implication, blamed the rumors upon bunching of Army cantonment contracts and pyramiding of inquiries. He said the commission is now making studies to prevent such pyramiding and expressed the hope that the Army and Navy requirements "will enter the market in a more orderly fashion to prevent any erratic movements of prices in the future."

Lumber circles agree with Henderson to the extent that price rises have been partly due to pyramiding of inquiries. They also point, however, to increases in wage costs due to a drive under way since last June in the Wage-Hour Administration to enforce compliance by the lumber industry with the wage-hour law. Some of the increases in price have come from the areas most affected.

Prices up 10 to 15 per cent over 1939

Based on prices of 2x4's in 20 cities canvassed by *ENR's* business news department, fir has shown a cost increase of 1.3 per cent over August of 1940 and 9.7 per cent since September, 1939. For the corresponding periods the price of pine has increased 5.3 and 14.5 per cent respectively.



Wide World Photo

Camp Dix prepares for mobilization

Initial construction for a 40,000-man camp gets under way at Camp Dix, 30 miles northeast of Camden, N. J., where the Geo. A. Fuller Co. of Philadelphia has a $5,531,000 contract for construction of 827 temporary buildings and 25 recruit reception buildings. Bids for the work were taken Aug. 23; award was made quickly to expedite housing for the 44th Division of the New Jersey National Guard. Complete sets of plans for camp housing, developed by the Quartermaster General, U. S. Army, provide for arrangements in regimental and company units of joist and stud wooden buildings. Standard layout includes two barracks buildings per company, together with storehouse, mess hall and recreation building. Barracks are two-story, other buildings one story. Heating, shower, and toilet equipment is provided in each barracks building.

More defense factories move toward construction

The week witnessed important new developments in the drive to get more defense industry factories under way. Most spectacular was the entrance of the Packard and Ford automobile companies into the airplane engine field. Ford broke ground on Sept. 17 for an $11,000,000 factory at its River Rouge plant where it will manufacture Pratt & Whitney engines under license. It is said that the buildings will be of windowless type so that they will be invisible from the air at night.

Packard's new plant will be devoted to the manufacture of Rolls-Royce engines—3,000 for the U. S. and 6,000 for Great Britain constituting the initial order. Cost of the plant will be met jointly by the two countries.

It is also announced from Washington that Sanderson & Porter will build an ammunition-loading plant and Hercules Powder Co., a bag-loading plant at locations not selected. Also, the du Pont Co. is to enlarge the smokeless powder plant already contracted for at Charlestown, Ind., and to build a bag-loading plant at the same place. The company is also to build an ammonia plant, a tetryl plant and a TNT plant. Hercules is to enlarge the scope of its powder plant at Radford, Va.

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Shasta to be operated by Reclamation Bureau

The Reclamation Bureau will complete, arrange for the marketing of water and power and will operate the Shasta Dam project according to representatives of the USBR who met with the California Water Project Authority in San Francisco August 29.

Under present plans the Bureau will build a transmission line from Shasta to Antioch, a substation at the latter place and in all probability a steam plant for standby and for firming up Shasta power. This latter is not included in the $228,000,000 budget for the project. Bureau engineers estimate that a 109,000-kw. steam plant costing $10,878,000 would be adequate.

Power rates to prospective purchasers, municipalities and governmental agencies to be given preference, would be 4.28 mills per kw.-hr. for firm power and 1.46 mills for secondary with delivery off the Antioch substation busbar at 66 or 110 kv. and including steam standby. If the Bureau is to build and operate stub transmission facilities for delivering power to prospective purchasers (lines are estimated to cost an additional $23,000,000), the rates for electricity will be 5.18 mills per kw.-hr. for firm energy and 1.77 for secondary. It is estimated that the project including the steam plant will produce annually 405,000,000 kw.-hr. necessary for pumping, 834,000,000 kw.-hr. of firm power and 196,000,000 kw.-hr. of secondary which will be available for sale.

TVA to Tacoma

Verne Gongwer is the new chief engineer of the Department of Public Utilities at Tacoma, Wash., coming from a position of project engineer with TVA where he had charge of all work on Guntersville Dam and more recently installation of 8 additional generating units at Wheeler, Wilson and Pickwick Dams. Gongwer had previously been with the city of Tacoma in charge of design and construction of dams, power plants and transmission lines.

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Purdue conference favors undergraduate soils study

Practice and theory combined to make the conference on soil mechanics held at Purdue University, Sept. 2-6, especially helpful as discussion and participating personnel were about evenly divided between the field of application and the theory of research and teaching.

The conference agreed that at least an introduction to soils mechanics should be included in undergraduate curricula; expressed some doubt of the value of mechanical analysis of soils but did not favor their abandonment; and laid stress on the assistance engineers can obtain from pedologists in the classification and field study of soils.

PWA nearing completion of construction program

The last of the PWA programs created by the Congress in 1938 is rapidly being completed according to a report of Public Works Commissioner, Col. F. W. Clark, who stated that only 180 of the 6,149 PWA non-Federal projects are yet to be completed. Total estimated cost of the program is $1,448,866,431 of which PWA made total grants of $636,390,791 and repayable loans of $34,590,865.

Among the 180 projects still under construction are some of the largest construction jobs in the history of the country—the $18,000,000 Boston waterworks; the $70,000,000 superhighway in Pennsylvania (to be dedicated in October 1940); New York's $18,000,000 Criminal Courts Building; Baltimore's $20,000,000 municipal improvement program; New York's $51,000,000 Queen's Midtown Tunnel under the East River; Chicago's subway at a cost of $46,000,000; a new $9,000,000 waterworks for Toledo; and several large power projects in South Carolina, Nebraska, Texas, Oklahoma and Tennessee.

When the last of the 180 projects has been completed, PWA will have built 34,468 projects—17,820 Federal projects constructed under direct supervision of various Federal departments and agencies and 16,648 non-Federal constructed in partnership with cities, counties and States, the actual work being done by private contractors and construction firms. The total estimated cost of all PWA projects during its seven years is $6,001,988,546.

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Defense and soils courses at New York University

With the endorsement of the War Department New York University will offer four evening courses for reserve officers and industrial specialists in the fields of procurement and material inspection beginning September 30. The courses, which were arranged after consultation with War Department officials, are "Production Control of Munitions Manufacture;" "Motion Study Applied to Munitions Manufacture;" "Statistical Methods Applied to Production," and "Gaging and Inspection Methods."

A graduate course in "Foundation Engineering and Soil Mechanics" will be conducted by Dr. Hamilton Gray, for the past four years engineer and soils expert with Moran, Proctor, Freeman, and Mueser, consulting engineers on foundations. An entirely new laboratory for soil mechanics, equipped with the latest apparatus, will be available for instructions and research purposes.

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Lift span up on schedule for Passaic River bridge

A lift span 332.5 ft. long was floated to place, and raised to its top position, to permit operation of an adjacent swing span, in a little more than 60 hours of the 72 hours allotted for closing of navigation on the Passaic River. All operations were scheduled to take advantage of the tides and daylight hours and the work was completed without incident over the week end of Sept. 7.

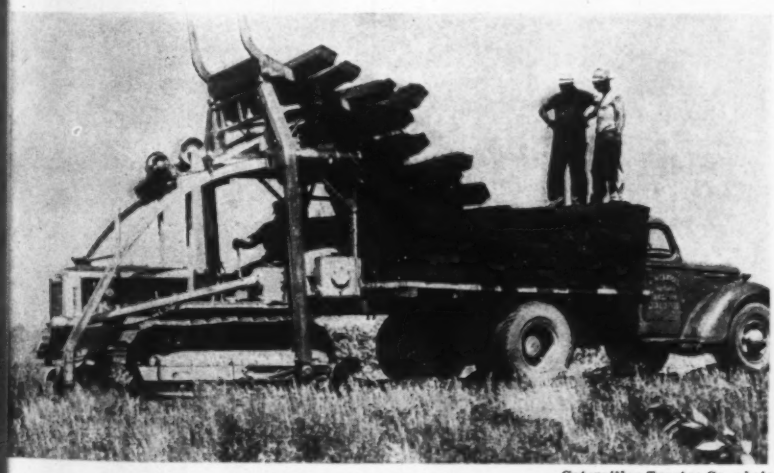
The bridge is on New Jersey Route 25 which carries much local traffic and the heavy truck traffic from New Jersey and southern points barred from the Pulaski Skyway, and will replace a swing span of low vertical clearance which requires opening for nearly all types of navigation on the busy Passaic River waterway. The new structure has 140 ft. vertical clearance when closed and is expected to reduce the number of bridge openings by 80 per cent. The entire bridge is 2,004 ft. long.

The new span, weighing 650 tons without floorbeams or other minor steel, was erected on falsework piling bents driven in deep water adjacent to the bridge site about the amount of the tide run above the bridge seats of the piers. Two barges fitted with timber falsework to provide pickups 45 ft. above the water, were floated into position between bents of the falsework at low tide so that the span swung clear of the erection supports as the tide rose.

The span was maneuvered into position by two tug boats and auxiliary cables, no difficulties being encountered as the height of the falsework permitted locating operations to proceed through a low tide period. As the next tide came in cribbing was set under each corner of the span following the rising structure to a height of 5 ft. then capped with steel billets to hold the structure during removal of the barges and connection of the lifting devices.

The portal members of the truss, previously assembled on the towers with cables attached to the counterweights, were bolted up and hydraulic jacks used to lower the span sufficiently to raise the counterweights enough to permit removal of toggles holding them. Hoists were used to overcome the unbalanced 30 ton excess weight of the lift span and raise it to its full 135 ft. clearance to permit river traffic.

The lift span was designed by Ash-Howard-Needles & Tammen of New York. Steel erection is being done by the American Bridge Co. under Murray Woods, superintendent. Design of the approaches and supervision of all work is being handled by the New Jersey highway department, Morris Goodkind bridge engineer, and A. E. Lee resident engineer.



Caterpillar Tractor Co. photo

Working on the railroad is different these days

A two prong, wedge shaped, fork on the front of an overhead shovel attachment for a standard tractor digs up and loads ties from an abandoned right-of-way of the Rock Island R.R. near Clinton, Ia. The overhead attachment is regular equipment except that the bucket is replaced by the forks and a sloping plate is added at the rear.

In operation the truck pushes the prongs through the ballast under the ties, then raises the ties, six to ten at a time, over the tractor where they slide down the plate to the truck, only manual operation being to straighten the load. During the loading operation the truck is pulled backward by the tractor to assure its being in the proper position.

The machine is said to be loading thirty ties a minute and cleaning a mile of right-of-way daily. Contractor V. H. Carrol, Cedar Rapids, Iowa, is doing the work which extends fifty miles.

WASHINGTON HIGHLIGHTS

THE ARMY last week announced further plans for construction of temporary shelter and facilities for the enlarged regular Army and the National Guard. New commitments bring the total allocated out of the $128,000,000 available to $70,315,000. Passage of the President's request for $359,000,000 to house the enlarged Army will greatly increase these plans but will not add any large number of new locations since the plan is to put the draftees at existing posts and cantonments. Largest of the newly announced projects are listed under Jobs of the Week.

SUPPLEMENTING last week's announcement that the FBI will assign specially trained operatives to survey plants or utility systems for sabotage dangers, a highly confidential manual of protective measures, hitherto only available to FBI agents and military officers, will be loaned to responsible officials of such concerns.

THERE ARE several major features of the omnibus transportation bill recently passed by Congress and now awaiting the President's signature:

The Interstate Commerce Commission is to regulate waterways under Congressional direction to develop the inherent advantages of each form of transportation; this is considered by railroad people as strengthening their position.

The President is to appoint a three-man board to study the relative advantages and extent of subsidization of the different forms of transport.

RFC railroad loan provisions are liberalized.

Railroad consolidations need no longer conform to the general plan of consolidation promulgated by I.C.C. in 1929. However, no men may lose their jobs as a result of mergers for four years afterwards.

American waterworks men will meet in Canada

Unless there are serious changes in the war situation, the American Water Works Association will hold its 1941 convention in Toronto, Ont., next June, according to Harry E. Jordan, secretary of the Association. Toronto was selected by the convention place committee several months ago subject to later review. A recent check of conditions indicates that at present there is no impediment to having the meeting in the Dominion of Canada.

Denison Dam work gets under way

DENISON Dam site with work under way to move total of 33,900,000 yd. of material, including new railway and highway construction. Outlet works are on the far side of the Red River where construction cableway and concrete plant may be seen with connecting construction bridge at right.

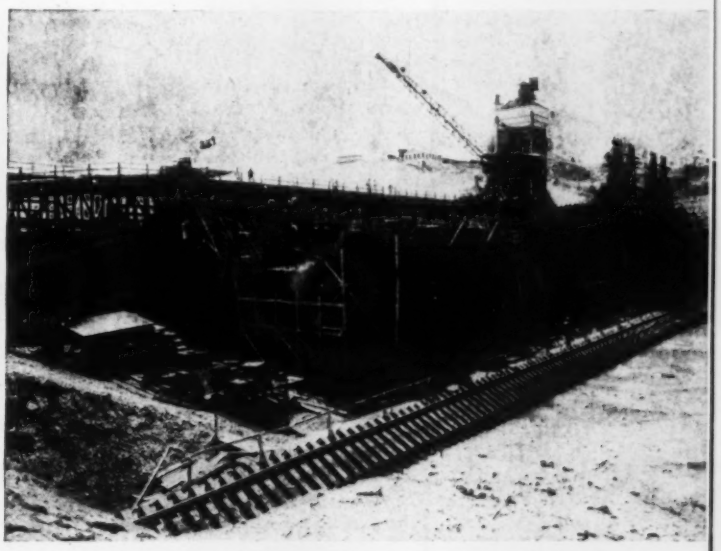
CONSTRUCTION of the $54,000,000 Denison Dam flood control and power project on the Red River five miles northwest of Denison, Tex., is well underway, the entire project being about 10 per cent complete. George W. Condon Co., and the John Kerns Construction Co., Inc., both of Omaha, Nebr., finished the excavation at the outlet works site in May. Moving rapidly is the work of the C. F. Lytle Company, Sioux City, Iowa, which is building the outlet works. The Guy F. Atkinson Company of San Francisco has started construction of the dam embankment and excavation for the spillway.

To control run-off from 38,290 sq.mi., 40 per cent of the Red River's drainage basin, 5,825,000 acre ft. of storage will be provided by rolled earth embankment about 15,200 ft. long with a maximum height of 165 ft. Storage includes 1,020,000 acre-ft. for silt, 2,060,000 acre-ft. for power and 2,745,000 acre-ft. for flood control. With the outlets closed, 758,000 acre-ft. of additional storage will be provided for flood control when there is 5 ft. of surcharge over the spillway.

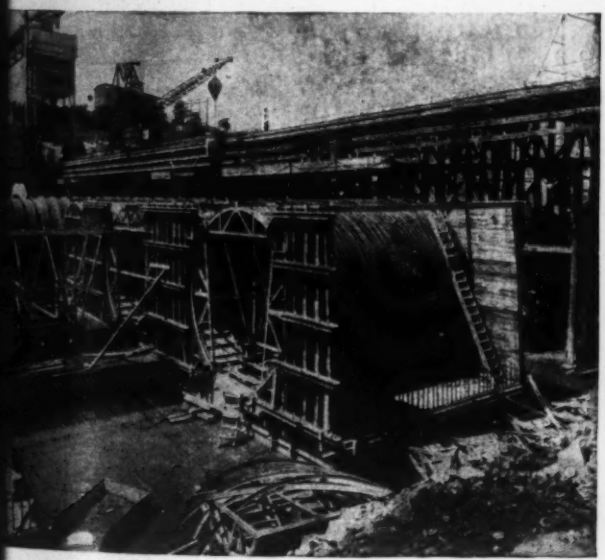
The job requires removal of 15,000,000 yd. of excavation, placement of 558,000 yd. of concrete, 17,500,000 yd. of embankment and 455,000 yd. of stone for bank protection.

The project, scheduled for completion in April 1944, is being carried out by the Denison District of the U. S. Engineers for which Major Lucius D. Clay is district engineer. John B. Alexander is principal engineer and S. G. Neff is senior engineer in charge of construction. A. H. Davidson, Jr., associate engineer, and E. J. Wanless, senior engineer, are resident engineers on the outlet works and embankment, respectively. For the Lytle firm, Robert F. McCune is superintendent. A. E. Holt is general manager for the Atkinson Co.

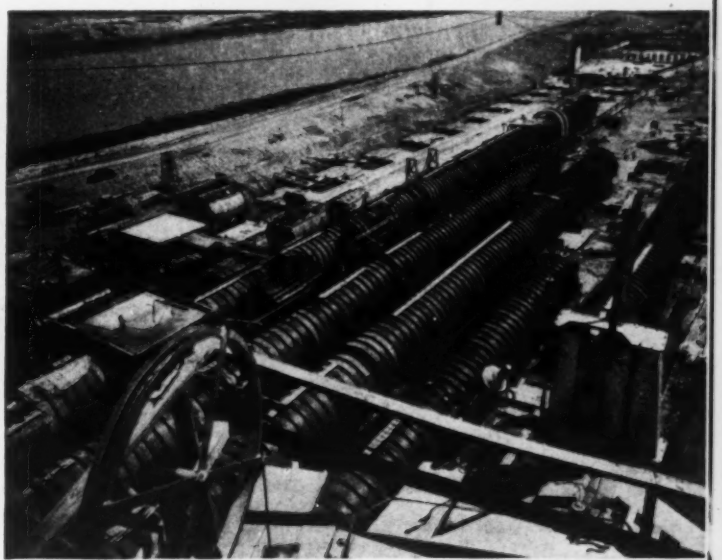
ASSEMBLING steel lining for the five 20-ft. reinforced concrete conduits leading from the intake to the power house. Rings are shipped in three pieces and assembled with hubs and spokes for alignment.



INTAKE structure rises from bed of Red River. Trestle carries large gantry for form and material handling plus concrete transfer car operating from plant in background.



STEEL forms set for placing alternate monoliths of unlined flood control conduits. Concrete plant with two 2-cu.yd. front charging tilting mixers loads concrete transfer car which charges cableway bucket on trestle.



FIELD assembly of 10-ft. sections of lining for reinforced concrete conduit. After riveting, joints are grit blasted inside covered frames to preserve the grit.

Bear Mt. Bridge passes to state on Sept. 26

Private toll bridge built in 1924 passes to New York State

Marking major improvement in highways near West Point Military Academy, the State of New York will take over ownership and operation of the Bear Mountain Bridge, and will open an entirely relocated 5½ mile road back of Storm King Mountain in a ceremony on Sept. 26.

The new highway is a great improvement over the old one, its 46 ft. paved width being divided into two 23 ft. lanes of 9 in. thick concrete for traffic in each direction, separated by a 6 ft. median strip. It replaces the Storm King Highway, an engineering feat of 20 years ago, whose 16 ft. paved width and sharp curves have long been inadequate for modern traffic, as passing is prohibited over most of its length and fatal rock falls have occurred. The new road, to be described in detail in the Sept. 26 issue of *Engineering News-Record*, cost $1,800,000 and required one year to construct.

Bear Mountain Bridge, largest suspension span in the world when it was completed in 1924 as a private toll structure, was built under the provision that it eventually become the property of the state of New York, and could be taken over by the state at any time on payment of a graduated fee. Tolls are expected to be reduced to 50 cents for automobile and driver.

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Navy buys steel plant for shipbuilding

The Navy Department announced Friday the purchase of the Risdon plant of the Columbia Steel Co., of San Francisco, which is a subsidiary of the United States Steel Corp. The plant will be converted for shipbuilding facilities to be used by the Union Iron Works of the Bethlehem Steel Co., which has a contract for construction of four cruisers and eighteen destroyers under the two-ocean Navy program.

The property, comprising 33 acres, numerous buildings, railroad track, and dock facilities, was transferred at a price of $1,900,000.

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Flood protection bond before Louisville voters

Louisville, Ky., will vote in the November election on the question of a $2,500,000 bond issue for the purpose of providing right-of-way for a $7,000,000 flood protection project for the city.

JOBS OF THE WEEK

SHIPBUILDING FACILITIES, ETC., Seattle, Wash.

General Construction Co., Seattle, Wash., awarded contract constructing shop building, ways, etc., for shipbuilding plant for Seattle-Tacoma Shipbuilding Corporation, Seattle, Wash., at estimated cost $5,000,000.

SEWAGE TREATMENT PLANT, Astoria, N. Y.

Caye Construction Co. Inc., Brooklyn, N. Y., was lowest bidder Contract 9, Bowery Bay Sewage Treatment Plant for Department of Public Works, New York, at $964,033.

PAPER PLANT, Brevard, N. C.

Fiske-Carter Construction Co., Greenville, S. C., awarded contract constructing cigarette paper plant at approximately $2,000,000, for Ecusta Paper Corporation. J. E. Sirrine & Co., Greenville, S. C., engineer.

POWER PLANT SUPERSTRUCTURE, Macon, Ga.

Smith-Pew Construction Co., Atlanta, Ga., awarded contract constructing superstructure for power plant building at $1,250,000, for Georgia Power Co., c/o F. A. Jordan, Atlanta, Ga.

HOUSING PROJECT, Newport News, Va.

V. P. Loftis, Charlotte, N. C., awarded contract constructing Harbor Homes housing project, for Newport News Housing Authority, at $1,048,000. Williams, Coile and Pipino, Newport News, architects.

AIR FLYING SCHOOL, Houston, Tex.

Tellepsen Construction Co., Houston, Tex., awarded contract constructing new air sub base flying school at Ellington Field at $952,950, for the Construction Quartermaster, Ellington Field.

BRIDGE, St. Georges, Del.

Phoenix Bridge Co., Phoenixville, Pa., awarded contract superstructure highway bridge over Chesapeake and Delaware Canal, for U. S. Engineer, Philadelphia, Pa., at $1,349,883.

TEMPORARY BARRACKS, Chanute Field, Rantoul, Ill.

J. C. Boespflug Co., Miles City, Mont., awarded contract 160 temporary barracks, Chanute Field, at $1,510,000.

CANTONMENT, Fort Dix, N. J.

A. A. LaFountain, Hackensack, N. J., and August Arace & Sons, Inc., Elizabeth, N. J., awarded contract constructing temporary housing, hospital, etc., $1,713,100.

CANTONMENT, Savannah, Ga.

J. B. McCrary Engineering Corp., Atlanta, Ga., A. K. Adams & Co., Atlanta, and W. C. Shepherd, Atlanta, awarded contract constructing temporary buildings and utilities at $2,558,136.

CANTONMENT, Jacksonville, Fla.

Starrett Bros. and Eken Inc., New York, N. Y., awarded contract on cost-plus-fixed-fee-basis constructing temporary buildings at Camp Blanding for $9,064,470.

CANTONMENT, Falmouth, Mass.

Walsh Construction Co., Long Island City, N. Y., awarded contract on cost-plus-fixed-fee-basis temporary buildings at Camp Edward, estimated cost $7,240,462.

CANTONMENT, Camp Jackson, S. C.

J. A. Jones Construction Co., Charlotte, N. C., awarded contract 850 temporary buildings, facilities, etc. at $3,443,632.

CANTONMENT, Anniston, Ala.

Dunn Construction Co. Inc., Birmingham, Ala., and John S. Hodgson Co., Birmingham, Ala., awarded contract on cost-plus-fixed-fee-basis for temporary buildings at Fort McClellan for $3,335,977.

CANTONMENT, Fort Bragg, N. C.

J. N. Pease & Co., Charlotte, N. C., and T. A. Loving, Goldsboro, N. C., awarded contract constructing temporary buildings and utilities at $3,731,845.

CANTONMENT, Hattiesburg, Miss.

J. A. Jones Construction Co., Charlotte, N. C., awarded contract on cost-plus-fixed-fee-basis for temporary buildings at Camp Shelby, $9,760,000. Lockwood Greene Engineers Inc., New York, N. Y., is engineer.

NOTE—Additional bidding and contract news on over 600 projects, large and small, appear in the Construction News Section beginning on page 13.

James Reed heads Cramp Shipbuilding Co.

In reorganization of the Cramp Shipilding Co., Philadelphia, to build naval sels for the country's defense program, nes Reed, who was manager of the lden Gate Bridge and Highway District ring construction of the $35,000,000 lden Gate Bridge at San Francisco, s elected president. Reed has previly been assistant director of public rks of Philadelphia, shop superinident of the Philadelphia navy yard, erintendent of the Mare Island navy d in San Francisco, and for several rs general manager of the Los Angeles ipbuilding & Drydock Co. Also officers the new company are H. Birchard rlor, civil engineer and vice president the old Cramp Co.

The Cramp shipyards at Philadelphia been closed for several years.

Ninth and Second Ave. "L" structures in New York to be demolished

The Board of Transportation of New York last week awarded a contract to the Albert A. Volk Co., Inc., of New York for razing the Ninth Ave. elevated structure from the Battery to the Polo Grounds, a distance of nearly 10 miles. The contract provided that the city shall pay $74,433 to the contractor, contrasting with the demolition of the Sixth Avenue where the city received money from the contractor for a presumed salvage value.

Bids were taken this week for demolition of about 3 miles of the Second Ave. elevated from 60th St. north to the intersection with the Third Ave. elevated at the Harlem River. The Second Ave. line will continue to operate from the 59th St. bridge to City Hall.

A.S.C.E. expels former Kansas City official

Matthew Murray, former Missouri WPA director and director of public works of Kansas City under the Pendergast regime, has been dropped from membership in the American Society of Civil Engineers, according to Geo. T. Seabury, secretary of the society.

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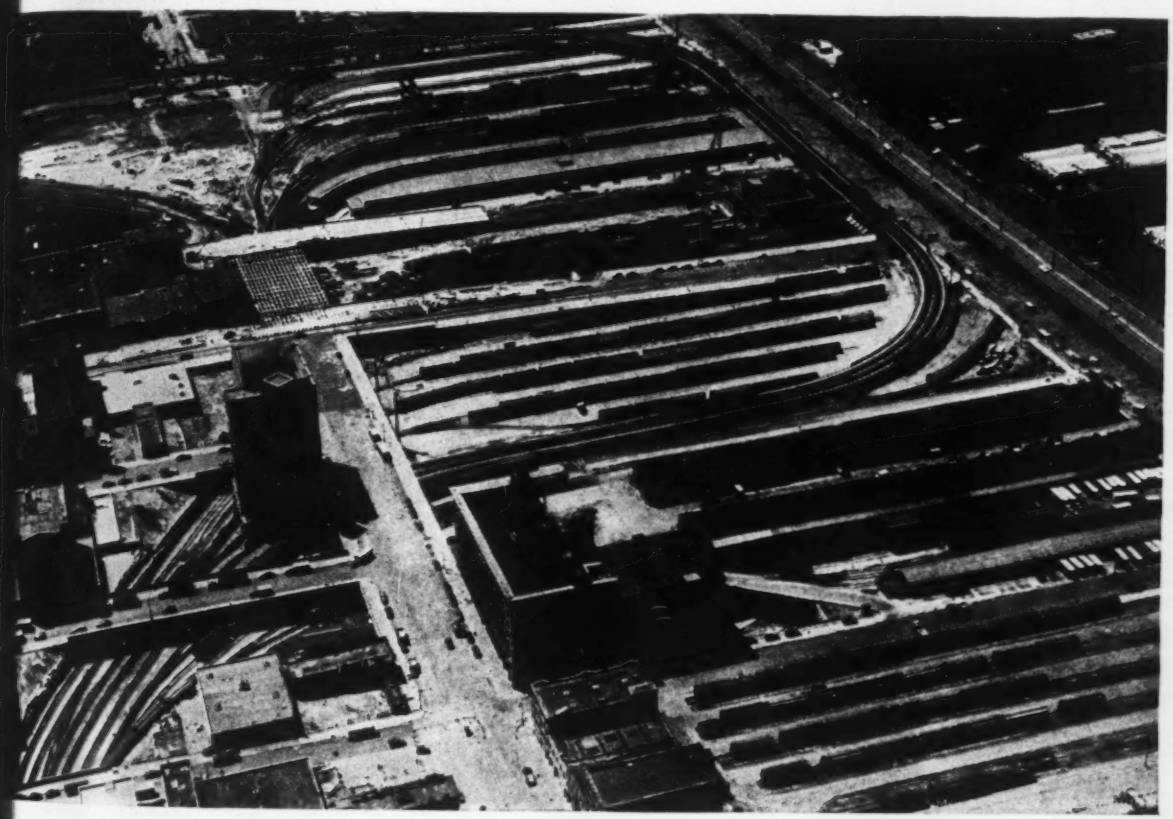

McLaughlin Air Service

New York freight terminal being constructed

econstruction of the 30th St. Yards of the York Central Railroad on the west side Manhattan Island has been under way for eral years as part of the railroad's extensive nstruction of its West Side Line to get the ks off the streets of New York. Reconction of the yard has been slow due to the for maintenance of all services.

Here shown, in the central part of the picture, is work on the viaduct that will carry 11th Ave. over the yard and on the viaduct connections to the cross streets.

In the lower left corner is the south end of the cut that carries the West Side Line under the city streets south of the 60th St. Yard. From this cut the main line swings to the west under 11th Ave. where it comes to grade and then rises on the double-track viaduct parallel to West St. At the south end of the yard this viaduct turns east, crosses over 11th Ave. and then turns south on a private right-of-way (not shown) to the terminal near Canal St. Before reconstruction started, 11th Ave. crossed this yard at grade.

Bear Mt. Bridge passes to state on Sept. 26

Private toll bridge built in 1924 passes to New York State

Marking major improvement in highways near West Point Military Academy, the State of New York will take over ownership and operation of the Bear Mountain Bridge, and will open an entirely relocated 5½ mile road back of Storm King Mountain in a ceremony on Sept. 26.

The new highway is a great improvement over the old one, its 46 ft. paved width being divided into two 23 ft. lanes of 9 in. thick concrete for traffic in each direction, separated by a 6 ft. median strip. It replaces the Storm King Highway, an engineering feat of 20 years ago, whose 16 ft. paved width and sharp curves have long been inadequate for modern traffic, as passing is prohibited over most of its length and fatal rock falls have occurred. The new road, to be described in detail in the Sept. 26 issue of *Engineering News-Record*, cost $1,800,000 and required one year to construct.

Bear Mountain Bridge, largest suspension span in the world when it was completed in 1924 as a private toll structure, was built under the provision that it eventually become the property of the state of New York, and could be taken over by the state at any time on payment of a graduated fee. Tolls are expected to be reduced to 50 cents for automobile and driver.

. . .

Navy buys steel plant for shipbuilding

The Navy Department announced Friday the purchase of the Risdon plant of the Columbia Steel Co., of San Francisco, which is a subsidiary of the United States Steel Corp. The plant will be converted for shipbuilding facilities to be used by the Union Iron Works of the Bethlehem Steel Co., which has a contract for construction of four cruisers and eighteen destroyers under the two-ocean Navy program.

The property, comprising 33 acres, numerous buildings, railroad track, and dock facilities, was transferred at a price of $1,900,000.

. . .

Flood protection bond before Louisville voters

Louisville, Ky., will vote in the November election on the question of a $2,500,000 bond issue for the purpose of providing right-of-way for a $7,000,000 flood protection project for the city.

JOBS OF THE WEEK

SHIPBUILDING FACILITIES, ETC., Seattle, Wash.

General Construction Co., Seattle, Wash., awarded contract constructing shop building, ways, etc., for shipbuilding plant for Seattle-Tacoma Shipbuilding Corporation, Seattle, Wash., at estimated cost $5,000,000.

SEWAGE TREATMENT PLANT, Astoria, N. Y.

Caye Construction Co. Inc., Brooklyn, N. Y., was lowest bidder Contract 9, Bowery Bay Sewage Treatment Plant for Department of Public Works, New York, at $964,033.

PAPER PLANT, Brevard, N. C.

Fiske-Carter Construction Co., Greenville, S. C., awarded contract constructing cigarette paper plant at approximately $2,000,000, for Ecusta Paper Corporation. J. E. Sirrine & Co., Greenville, S. C., engineer.

POWER PLANT SUPERSTRUCTURE, Macon, Ga.

Smith-Pew Construction Co., Atlanta, Ga., awarded contract constructing superstructure for power plant building at $1,250,000, for Georgia Power Co., c/o F. A. Jordan, Atlanta, Ga.

HOUSING PROJECT, Newport News, Va.

V. P. Loftis, Charlotte, N. C., awarded contract constructing Harbor Homes housing project, for Newport News Housing Authority, at $1,048,000. Williams, Colle and Pipino, Newport News, architects.

AIR FLYING SCHOOL, Houston, Tex.

Tellepsen Construction Co., Houston, Tex., awarded contract constructing new air sub base flying school at Ellington Field at $952,950, for the Construction Quartermaster, Ellington Field.

BRIDGE, St. Georges, Del.

Phoenix Bridge Co., Phoenixville, Pa., awarded contract superstructure highway bridge over Chesapeake and Delaware Canal, for U. S. Engineer, Philadelphia, Pa., at $1,349,883.

TEMPORARY BARRACKS, Chanute Field, Rantoul, Ill.

J. C. Boespflug Co., Miles City, Mont., awarded contract 160 temporary barracks, Chanute Field, at $1,510,000.

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James Reed heads Cramp Shipbuilding Co.

In reorganization of the Cramp Shipilding Co., Philadelphia, to build naval sels for the country's defense program, mes Reed, who was manager of the lden Gate Bridge and Highway District ing construction of the $35,000,000 lden Gate Bridge at San Francisco, s elected president. Reed has previly been assistant director of public rks of Philadelphia, shop superinident of the Philadelphia navy yard, perintendent of the Mare Island navy d in San Francisco, and for several rs general manager of the Los Angeles ipbuilding & Drydock Co. Also officers the new company are H. Birchard rlor, civil engineer and vice president the old Cramp Co.

The Cramp shipyards at Philadelphia been closed for several years.

Ninth and Second Ave. "L" structures in New York to be demolished

The Board of Transportation of New York last week awarded a contract to the Albert A. Volk Co., Inc., of New York for razing the Ninth Ave. elevated structure from the Battery to the Polo Grounds, a distance of nearly 10 miles. The contract provided that the city shall pay $74,433 to the contractor, contrasting with the demolition of the Sixth Avenue where the city received money from the contractor for a presumed salvage value.

Bids were taken this week for demolition of about 3 miles of the Second Ave. elevated from 60th St. north to the intersection with the Third Ave. elevated at the Harlem River. The Second Ave. line will continue to operate from the 59th St. bridge to City Hall.

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McLaughlin Air Service

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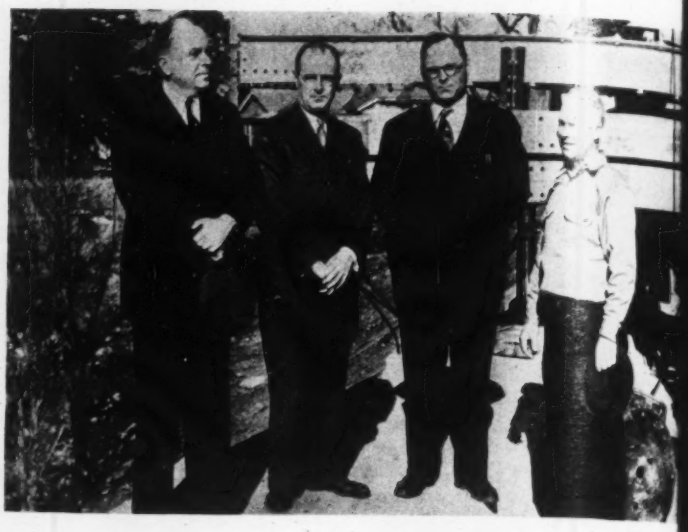
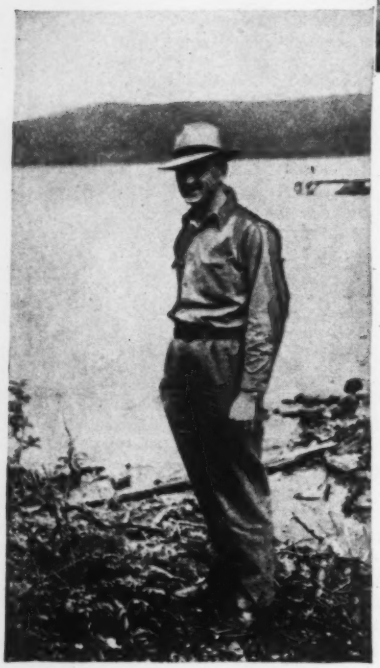
MEN AT WORK

CHARLES BOURGIN, assistant superintendent of the Montclair, N. J., Bureau of Water Supply and SAM NEWKIRK, engineer and Supt. of the Elizabeth, N. J., Board of Water Commissioners accept this photography business with resignation. Newirk has just told Bourgin to throw away the carnation in his coat. "Cigars, not carnations, are what waterworks men wear at conventions," he says.



Pictured at the Tallahassee, Ala. bridge over the Tallapoosa River are CHRIS J. SHERLOCK, left, state highway director of Alabama; L. A. IDLE, manager of the bridge department, Pittsburgh-Des Moines Steel Co.; J. P. TROTTER, bridge engineer, Alabama and D. M. SHARP, superintendent for PDM, the superstructure contractors. Sherlock and Trotter were recently victims of a case of mistaken identity in a MEN AT WORK page.

MAJOR JAMES H. STRATTON is district engineer in charge of work on the concrete and rolled earth fill Caddo Dam on the Arkansas River in south-eastern Colorado.



M. J. GREER, resident engineer for the U. S. Bureau of Reclamation on the west end of the Colorado-Big Thompson diversion tunnel. He is in charge of the intake of the tunnel that is destined to divert Grand Lake's western slope water through the Continental Divide to the Big Thompson drainage area on the opposite side of the range.

Unusual engineering job is that held by ALLY R. JENNINGS, shown outside residence of one of his charges. Jennings, formerly with the New York City Department of Parks, was recently selected general director of the Bronx Zoo and the New York Aquarium by the New York Zoological Society.

MEN AND JOBS

E. MORRIS and J. C. WOODMAN, merly associated with the Nichols ineering & Research Corp., have anized the firm of Morris & Woodman engage in consulting practice on ge and sewage disposal. Their office ocated in Flushing, N. Y.

ARD J. JOHNSON, civil engineer of idan, Wyo., is seeking the nomina- for county commissioner of Sheri- County, Wyo. It was erroneously rted in *ENR*, Aug. 15, 1940, that nson was from Cheyenne, Wyo., and he was seeking the nomination for nty commissioner of Laramie County, o.

ERT WILLEMS, Republican nominee engineer of Summit County, Ohio, resigned as assistant engineer in highway department of the city of ton, Ohio, effective Sept. 6.

B. RICHARDS is retiring as general ager of the Birmingham Water rks Co., Birmingham, Ala.

W. JONES, senior detailer in the dge division of the Montana state hway department and located at ena, has been given a fellowship for ear of special study in the Bureau affic Research at Yale University.

TON MOORE, of Siler City, N. C., begun new duties as supervising neer in Chatham County, N. C. for North Carolina state highway and lic works commission. Moore has connected with the highway com- ion in Chatham County for the past years; he succeeds the late A. T. d of Bynum. In his new work, re, whose appointment was an- ced by L. E. Whitfield of Asheboro, rict highway engineer, will be in ge of road construction and mainte- ce in Chatham County.

H. BRYANT of Bloomfield, Ia., has named to serve as engineer of on County, Iowa to fill the vacancy ed by the resignation of Fred W. is, county engineer for five years former engineer of Audubon county, J. W. Wiersma has been reelected a three year term as engineer of dy county, a position he has held eleven years.

OWEN BECKLEY of Somerset, Pa. recently appointed maintenance su- ntendent of the Pennsylvania state rtment of highways for Allegheny nty. He succeeds William H. ncies.

DOUGLAS WRIGHT, assistant PWA project engineer at Omaha, has been named chief project engineer for the PWA in Nebraska to succeed K. SEWELL WINGFIELD, who has been transferred to Washington, D. C. to head PWA's power division as chief engineer.

BEN LELAND and LEONARD DWORSKY, former district engineers for the Illinois state division of sanitary engineering, have been named to work with the Cook County unit, a new unit formed to study the many public health problems in the county outside of Chicago. C. V. ERICKSON, former engineer and manager for the Champaign-Urbana sanitary district, has been named state district engineer to be in charge of the new Peru health unit.

IRVING W. FINBERG, first lieutenant with the engineering reserves, has resigned his position in the sales department of the Wheeling Corrugating Co., New York District, in order to accept active duty with the corps of engineers. He will be employed on organized reserve work of the engineer section at Governors Island, N. Y.

A. W. GAINES of Council Bluffs, Ia., has been named engineer of Harrison County, Ia. Gaines, who worked with the George W. Condon Co., Council Bluffs, and Eblen Construction Co., Cumberland, Ia., will be assisted by HERBERT MCGAVERN, Missouri Valley, Ia.

DOW I. SPEARS, former city manager of Huron, S. D., has been named WPA area engineering supervisor for Fillmore and Winona counties, Minnesota. Spears was city manager of Huron for five years until last spring when the city adopted the commission form of government.

RUSSELL S. HUMMEL, graduate of Penn State College, has succeeded the late William A. Smith as state WPA administrator in Virginia. Before being loaned to the WPA he served as vice president of Allen Saville, Inc., Richmond.

RAYMOND W. SIEBER, of Fayetteville, Pa., has been named resident engineer for District 8 with Harrisburg as headquarters for the Pennsylvania State Highway Department. For District 11, with Pittsburgh as headquarters, COLEMAN MURPHY, of Crafton, has been named engineer.

CAPT. JAMES W. DEMENT, JR., of the Corps of Engineering, has been transferred from Little Rock, Ark., to Mobile, Ala.

STANTON WALKER, lecturer on engineering materials at the University of Maryland and director of engineering for the National Sand and Gravel Association, and GEORGE C. ERNST, professor in the department of civil engineering at the University of Maryland, are to be in charge of a new course dealing with the theory of concrete mixtures at that school during the coming year, according to DEAN S. S. STEINBERG. Walker has been engaged in research in concrete materials for more than 20 years, and for ten years he was associated with Duff A. Abrams at Lewis Institute. Since 1930 he has acted as director of engineering of the National Ready Mixed Concrete Association. Ernst joined the University of Maryland in 1936, going there from Iowa State College where he had been on the faculty for six years.

WILLIAM GERIG, civil engineer at Arkadelphia, Ark., specializing on the design of earth dams, is serving as consultant for new levees along the Wabash and Ohio rivers in Indiana. Gerig, who retired in 1938 from the civilian division of the U. S. Engineers, worked on the construction of the Panama Canal, the Alaskan R. R., Fort Peck Dam, and the Mississippi River levees.

COL. GILBERT A. YOUNGBERG (retired) of Jacksonville, Fla., who made one of the first surveys for the Florida cross state ship canal, has been made brigadier general. Gen. Youngberg was a member of Gen. Pershing's headquarters staff during the World War and at one time was on active duty in the Philippine Islands. For a time he was associated with Hills, Youngberg & Luce with headquarters at Jacksonville. He also served as district engineer for the state of Florida with the U. S. Engineers, retiring from that organization in 1925. Promotion for Col. Youngberg was made possible by a recent act of Congress.

THOMAS A. CHERRY, engineer of Harrison county, Iowa, has resigned.

MARGARET FULTON of Clarinda, Ia., has begun new duties as junior civil engineering aide at the Langley Memorial Aeronautical laboratory at Hampton, Va. Miss Fulton has been working as draftsman in the Page, Iowa county engineer's office. She received her engineering education at Park College, Mo. and the University of Kansas.

E. J. PIPKIN of Broadway, N. C., has been named city manager for the town of Angier, N. C. The post is a newly created one, the town having just adopted the city manager form of government. In his new work Pipkin will, among other things, have charge of the water department.

OBITUARY

CLIFFORD M. PINCKNEY, 57, former chief engineer of the Manhattan Borough President's office under whose administration many of the borough's public improvements were made, died at New Rochelle, N. Y., Sept. 12. He had much to do with the erection of the West Side Highway, the Park Avenue and Riverside Viaducts, the Canal and Dyckman Streets sewage treatment plants, the Park Avenue extension around Grand Central Station and the Wards Island sewage disposal plant. At the time of his death Mr. Pinckney was chief engineer for the West Side Association of Commerce of New York City, a position he had occupied for two years, following his retirement from the Borough President's office. He had been working for the association on a master plan of the West Side and cooperating with city officials on plans for approaches to the Battery-Brooklyn Tunnel.

ROBERT LEROY JONES, 53, deputy state engineer in charge of flood control and reclamation in California, died at Sacramento Sept. 12. Jones held many responsible positions and following the high water damage in 1937 was in charge of rehabilitation work in the northern half of the state.

CARLETON W. BUELL, 59, city engineer of Bristol, Conn. died there Sept. 13.

ROBERT K. WARREN, 53, chief engineer and general manager of the Los Angeles County Sanitation District died Aug. 28 in Los Angeles, Cal. Warren had been instrumental in establishing the sanitation district and had directed construction of the entire project including the 8-mile tunnel to the Palos Verdes Mountains.

ROBERT FARIES, 59, assistant chief engineer for the Pennsylvania Railroad in charge of maintenance of roadway and track, died at Philadelphia Sept. 8. He had been with the railroad for 41 years and was considered a leading authority on rail design and track construction.

CHARLES OWEN BERRY, 80, construction engineer who supervised the building of the foundations on which the Statue of Liberty rests at Bedloes Island in New York harbor, died Sept. 10 at Long Branch, N. J.

PAUL H. ROGERS, 40, of Lincoln, Neb., died Sept. 4 at Ogallala, Neb. where he was employed as an engineer on the tri-county dam project.

C. S. GZOWSKI, 65, chief engineer of construction for the Canadian National Railways, died Sept. 7 at Montreal. Gzowski had been on extensive railway work on the Hudson Bay line and built a number of branches serving newly opened mining areas of northern Canada.

JOHN AVERY, 69, for 25 years a field engineer for the Portland Cement Association of New York City, died at his Yonkers home Sept. 9. Avery was a past president of the Westchester Chapter of the Society of Professional Engineers.

GEORGE O. HUEY, fo[r]mer state PW[A] Administrator for Okla[ho]ma, died at t[he] U. S. Veterans Hospi[tal] in Mus-kog[ee] Okla. Sept. 4. Huey [w]as a licens[ed] architect and had pr[ac]ticed at Okl[a]homa City and in Min[n]esota.

CARL F. HERITAGE, 60, bridge engine[er] for the Kansas City S[ou]thern Railro[ad] died in Kansas City, Mo. on Aug. [8]. He had been in the br[i]dge departm[ent] of the railroad since 1910 and was past president of the American Railw[ay] Bridge Building Association.

CONTRACTS AND CAPITAL

CONSTRUCTION OF TEMPORARY military housing adds almost $45,000,000 to this week's engineering construction awards to bring the total to $120,809,000, the third highest volume of the year. The total is 76 per cent above last week, and 91 per cent higher than the volume for the corresponding 1939 week.

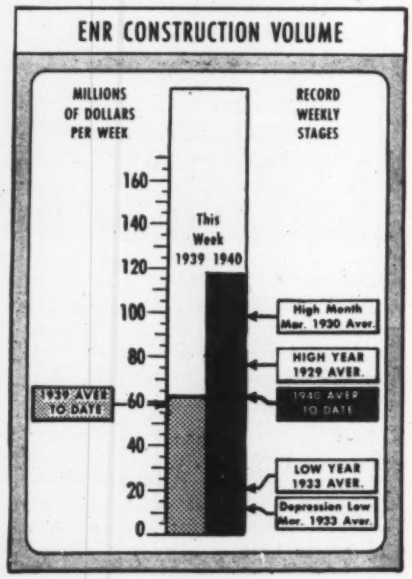
Public construction tops the preceding week by 162 per cent, and the 1939 week by 122 per cent. Private awards are 19 per cent under last week, but are 28 per cent higher than last year.

The week's volume brings 1940 construction to $2,400,796,000, 8 per cent above the $2,221,741,000 reported for the 38-week period last year. Private awards maintain their 20 per cent gain over the 1939 period, and public construction exceeds its last year's mark by 4 per cent, due to the 162 per cent increase in federal work.

As a result of the military housing contracts, public building awards reached the third highest volume of the year. In addition to public buildings, bridges, earthwork and drainage, streets and roads, and unclassified gain over last week; and bridges, industrial and commercial buildings, streets and roads, a[nd] unclassified top their totals for a year a[go]

New capital for construction purpo[ses] totals $256,916,000 for the week. T[his] compares with $14,376,000 for the [19]39 week. The current total is made up [of] $220,000,000 in federal appropriatio[ns] for defense housing and barracks, $[3]595,000 in corporate security iss[ues] $2,694,000 in USHA loans for defe[nse] housing, $2,028,000 in state and muni[ci]pal bonds, and $599,000 in RFC loans [for] public improvements.

New construction financing for t[he] year to date, $2,780,186,000, tops [the] $2,170,096,000 reported for the 38-w[eek] period in 1939 by 28 per cent.



CONTRACTS
(Thousands of dollars)

	Week Ending Sept. 21 1939	Sept. 12 1940	Sept. 19 1940
Federal	$10,898	$7,834	$2[,]2
State & Municipal	31,533	28,102	41[,]
Total public	$42,431	$35,936	$4[2,]
Total private	20,917	32,769	2[6,]
TOTALS	$63,348	$68,705	$12[0,]
Cumulative 1940 (38 weeks)			$2,40[0,]
1939 (38 weeks)			$2,22[1,]

Note: Minimum size projects incl[uded] are: Waterworks and waterways pro[jects] $15,000; other public works, $25,000; [in]dustrial building, $40,000; other build[ings] $150,000.

NEW PRODUCTIVE CAPITAL

	1939 38 Wks.	Cumulative 1940 38 Wks.
NON-FEDERAL	$1,042,068	$1,30[1,]
Corp. Securities	173,709	20[5,]
State & Mun.	409,636	66[7,]
R.E.A. loans	89,445	[ ]
U.S.H.A. loans	172,963	17[8,]
R.F.C. loans	4,315	18[2,]
Fed. Aid-Hwy.	190,000	18[4,]
FEDERAL	$1,128,928	$1,47[8,]
TOTAL CAPITAL	$2,170,996	$2,78[0,]

FHA MORTGAGES

	Week Ending Sept. 16 1939	Sept. 7 1940	Sept. 14 1940
Selected for appraisal	$22,535	$22,939	$25,[7]*
Cumulative 1940 (37 weeks)			$87[2,]
1939 (37 weeks)			$85[3,]

* Subject to revision.

ENR INDEX NUMBERS

			1913
Index Base = 100			10[0]
Construction Cost	Sept.,	40..244.13	11[7]
Building Cost	Sept.,	40..203.13	19[6]
Volume	Aug.,	40..281	12[5]

MEETINGS

ATIONAL RECLAMATION ASSOCIATION, nual meeting, Great Falls, Mont., pt. 24-25-26.

TERNATIONAL CITY MANAGER ASSOCIA-ON, Colorado Springs, Colo., Sept. 23-

MERICAN PUBLIC WORKS ASSOCIATION, nual meeting, Detroit, Mich., Sept. 30-t. 2.

DERATION OF SEWAGE WORKS ASSOCIA-ONS, first national convention, Chicago, t. 3-5.

ATIONAL SAFETY COUNCIL, national fety congress and exposition, Chicago, t. 7-11.

MERICAN PUBLIC HEALTH ASSOCIATION, nual meeting, Detroit, Mich., Oct. 8-11.

MERICAN SOCIETY OF HEATING and ntilating Engineers, fall meeting, uston, Tex., Oct. 14-15.

MERICAN RAILWAY BRIDGE & BUILDING SOCIATION, Chicago, October 15–17.

MERICAN SOCIETY OF CIVIL ENGINEERS, ll meeting, Cincinnati, Ohio, Oct. 16-18.

MERICAN WELDING SOCIETY, annual eting, Cleveland, Ohio. Oct. 20-25.

REGIONAL AND LOCAL

W ENGLAND WATER WORKS ASSOCIA-N, annual convention, New York City, pt. 24-27.

W YORK STATE ASSOCIATION OF ARCHI-CTS, Rochester, N. Y., Sept. 26-27-28.

RTH DAKOTA WATER AND SEWAGE ORKS, annual convention at Wahpeton, D., Sept. 26-27-28.

CIVIL SERVICE EXAMINATIONS

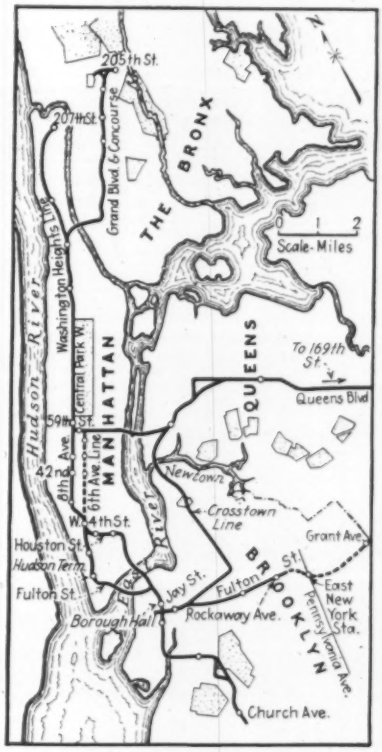
S. ORDNANCE DEPARTMENT senior in-ctors, inspectors, associates, assistant junior inspectors of ordnance mate-. Applications will be received until ther notice.

Y OF NEW YORK, assistant superin-dent of demolitions and junior assessor gineering). Applications, limited to dents of New York city, must be filed Sept. 23.

W YORK STATE CIVIL SERVICE, safety pector of construction. Applications t be filed by Oct. 4.

Brooklyn subway extension all under contract

Award of the last section of the Fulton St., Brooklyn, extension of the Independent Division subways last week marked the end of major new work as all subway construction now contemplated is under way except a car storage yard on Pitkin Ave. The new extension is about 3 miles in length from Rockaway Ave. at Fulton St. to Grant Ave. at Pitkin St., near Sunrise Highway. The last section from Crystal St. to Grant Ave. will be built by the Geo. H. Flinn Corp. under a $5,713,802 contract. The first work on this extension was started more than two years ago with awards made on an intermediate section one year ago. The present work is



Independent Division of New York's subway system. Last major contracts were awarded recently for the Fulton St. extension. Sixth Ave. link is expected to be in use by Christmas.

4 track construction being done almost entirely in the streets in open cut excavation. Total cost of the extension is about $20,000,000, less than $7,000,000 per mi. of structure.

The entire Independent Division of the New York subways generally known as the "8th Avenue," cost about $800,000,000 to construct its 56 mi. of line, 230 mi. of track most recent work being that on the Sixth Avenue link from 9th to 53rd Streets at a construction contract cost of $13,775,520 per mile. The Sixth Ave. link is scheduled to go into operation before the end of the year.

BRIEF NEWS

ALLOTMENTS totaling $4,684,000 for rural electrification in 18 states were announced during the last two weeks by Harry Slattery, Administrator of Rural Electrification. These allotments, providing for 4 new cooperatives and for the enlargement of 23 others, with added generating facilities for two power systems, bring the total REA allotments to $314,589,114 since it was established in 1935.

ACCORDING to Marcel Blosset, chief engineer of the French Ministry of Public Works, now in Paris to supervise reconstruction, a long-dormant project to make Paris a harbor for 2,500-ton freighters will be realized within three years as the result of the destruction of bridges in the Seine valley during the advance of the German forces.

IN AN EFFORT to encourage building of small homes seven AFL labor organizations in the building and construction industry in the Bronx, New York, adopted a secondary wage scale reducing their standard wage from 20 to 35 per cent to meet competition of non-union labor on this work.

THE MEXICAN government announces that it must spend $2,000,000 to obtain machinery and equipment in the United States for installations at the generating plant it is establishing at Ixtapantongo, near Mexico City.

INDICATIONS that Grand Coulee Dam, in Washington, is approaching completion were afforded in the fact that 303 men left the project during August, many of them going to Alaska, California, and Panama on long-time jobs.

BECAUSE of the similarity of Nebraskan and Argentine land contours, the federal civil engineer of Buenos Aires, Luis Maria Zalazar, recently made a two weeks study of construction methods used by the state highway department of Nebraska.

THE FLORIDA KEYS AQUEDUCT COMMISSION is attempting to finance enlargement of a proposed navy water pipe line to serve the Key West civilian population. The Navy has allocated $2,000,000 to build an aqueduct over the Keys to provide water for naval purposes and the commission wishes to enlarge the line to take care of civilian needs, now served by rainfall retained in cisterns.

THE SEATTLE BUILDING TRADES COUNCIL has re-established the 8-hour day 40-hour week for work on defense projects. Regular working hours were reduced to 6 hours daily in 1937.

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

FLOOD PROTECTION PROJECT CORNING, NEW YORK

OWNER: U. S. Engineer Office, Binghamton, N. Y.; Major G. J. Nold, district engineer.

PROJECT: Construction of Flood Protection Project (Section 1) at Corning, N. Y. Involves channel and drainage ditch excavation; construction of levee embankments; removal of bridges, superstructure, and abutments; removal of concrete and masonry walls, slabs, and building foundations and paving; construction of concrete structures and D.L.&W. RR. bridge; sewerage and drainage work; rock protection; temporary railroad and highway relocation. All work located along Cutler Creek and Chemung and Cohocton Rivers, and for protection of portions of Painted Post, Riverside and Corning, N. Y.

CONDITIONS: Contractor to furnish all materials and complete work in 500 calendar days. Highway and railway transportation facilities available. Wage rates are: skilled labor, $1.00 to $1.375 per hr.; semi-skilled, 65 to 85c.; and common labor, 50 to 60c. per hr.

BIDS: Four bids were opened June 21, 1940, ranging from the contract low of $626,059 to $670,830. Engineer's estimate, $612,130.

LIST OF BIDDERS:

1. Clevorock, Inc., New York, N. Y. (contract) $626,059
2. T. M. Flanaghan, Reading, Pa. 646,829
3. D. W. Winkelman Co., Syracuse, N. Y. 648,972
4. J. F. Fitzgerald Constr. Co., Boston, Mass. 670,830

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing and grubbing	L.S.	$7,500.00	$6,000.00	$20,000.00
2. Stripping, levee foundation	18,000 c. y.	.28	.30	.40
3. Common excavation	180,000 c. y.	.28	.30	.35
4. Excav., borrow area 1	30,000 c. y.	.28	.15	.19
5. Excav., borrow area 2	60,000 c. y.	.28	.15	.20
6. Excav., borrow area 3	75,000 c. y.	.28	.35	.33
7. Excav., borrow area 4	60,000 c. y.	.28	.25	.30
8. Excav., borrow area 5	20,000 c. y.	.28	.40	.25
9. Rock excavation	100 c. y.	5.00	4.60	2.00
10. Remove and reset superstr., DL&W RR bridge	L.S.	2,500.00	3,000.00	9,500.00
11. Remove Balcom Ave. bridge	L.S.	2,000.00	1,500.00	8,500.00
12. Remove High St. bridge—Cutler Cr.	L.S.	1,000.00	400.00	4,600.00
13. Remove High St. bridge, Drainage Ditch	L.S.	500.00	300.00	2,800.00
14. Remove RR bridge abut., Balcom Ave. and Main St. paving, headwalls, and wingwalls of Balcom Ave. br. over Bill Smith Cr.	800 c. y.	4.00	4.60	3.00
15. Wood sheeting, incl. shoring	1,500 s. f.	.50	.75	.50
16. Steel piling, incl. shoring	6,000 s. f.	1.40	2.00	.80
17. Struct. backfill, compacted	18,000 c. y.	.60	.80	.50
18. Struct. backfill, uncompacted	8,000 c. y.	.20	.30	.25
19. Embankment, levee	300,000 c. y.	.21	.13	.15
20. Additional rolling	16,000 sq.	.05	.03	.01
21. Topsoil, placing	15,000 c. y.	.60	.60	.50
22. Topsoil, furnish and place	4,000 c. y.	.60	1.80	1.25
23. Seeding	25 ac.	80.00	200.00	100.00
24. Landscape grading	1,500 c. y.	.50	1.05	.50
25. Derrick stone	1,600 c. y.	5.50	7.50	6.00
26. Dumped riprap	1,200 c. y.	3.00	4.50	5.00
27. Rock paving	1,400 c. y.	9.00	6.00	7.00
28. Grout for gutters and paving	100 c. f.	1.50	2.50	1.15
29. Gravel, backing and drains	1,000 c. y.	3.00	3.00	2.00
30. Brick in manholes	5 M	60.00	60.00	40.00
31. Cl. A conc., conduit struct.	3,550 c. y.	20.00	18.00	17.00
32. Cl. A conc., walls, manholes, misc.	3,850 c. y.	20.00	17.00	18.00
33. Cl. B conc., weir, floor paving, pier, abut.	4,550 c. y.	13.00	16.00	14.00
34. Drill holes, conc. or masonry	100 l. f.	1.00	1.00	.25
35. Steel sheet piling	19,000 s. f.	1.10	1.25	1.75
36. Struct. carbon steel, brdge	142,000 lb.	.055	.08	.07
37. Struct. silicon steel, bridge	37,000 lb.	.062	.09	.075
38. Misc. metal work	4,000 lb.	.16	.16	.10
39. Copper water stops	150 lb.	.60	.50	.30
40. Reinforcing steel	1,200,000 lb.	.04	.055	.0425
41. Fencing	700 l. f.	2.00	1.30	4.00
42. Wr. iron pipe handrailing	60 l. f.	2.50	.80	4.50
43. 8-in. drain tile	700 l. f.	.30	1.10	.30
44. Cast iron pipe	6,800 lb.	.05	.07	.05
45. 18-in. 12-ga. corr. met. pipe	30 l. f.	4.50	5.00	
46. 36-in. 8-ga. corr. met. pipe	120 l. f.	12.50	16.00	
47. 36-in. 12-ga. corr. met. pipe	30 l. f.	9.00	9.00	
48. 60-in. 10-ga. corr. met. pipe	80 l. f.	22.00	17.00	
49. 60-in. 12-ga. corr. met. pipe	40 l. f.	20.00	15.50	
50. Recond. and relay 18-in. c.m. pipe	50 l. f.	3.00	5.00	
51. 36-in. concrete pipe	50 l. f.	8.50	10.00	
52. 42-in. concrete pipe	650 l. f.	12.00	10.50	
53. 60-in. concrete pipe	120 l. f.	20.00	16.00	
54. 8-in. drainage gates	8 ea.	25.00	35.00	
55. 36-in. drainage gates	1 ea.	150.00	200.00	
56. 60-in. drainage gates	1 ea.	450.00	625.00	
57. 36-in. drain. gates, (Calco 1001, or equal)	1 ea.	400.00	440.00	
58. Recond. and reinstall exist. 36-in. gates	1 ea.	150.00	110.00	
59. As above, 18-in. gates	1 ea.	70.00	60.00	
60. As above, 8-in. gates	1 ea.	25.00	25.00	
61. Temp. trestle piling	5,000 l. f.	1.00	1.00	
62. Timber in temp. trestle	146 Mbm.	110.00	165.00	
63. Hardware in temp. trestle	12,000 lb.	.15	.08	
64. Bridge deck, DL&W RR	L.S.	1,500.00	3,200.00	3,000.00
65. Road surfacing, temporary, gravel	400 c. y.	3.00	4.30	
66. As above, bitumen	2,700 gal.	.20	.25	
67. Care and diversion of stream	L.S.	25,000.00	27,000.00	24,000.00

HIGHWAYS NANSEMOND COUNTY, VIRGINIA

OWNER: Department of Highways, Commonwealth of Virginia, Richmond. J. M. Hagan, district engineer, Suffolk, Va.

PROJECT: Constructing 1.6 miles of reinforced cement concrete pavement and .01 mile gravel connection-bituminous surface treatment, Nansemond River bridge, one-quarter mile west of intersection of Route 10 (Elephants Fork), Nansemond County, Va.

CONDITIONS: Contractor to furnish all materials and complete work in 110 days. Rail and highway transportation facilities available. Wages are: skilled labor, 60c. per hr.; semi-skilled, 35c.; and common, 30c. per hr.

BIDS: Four bids were received July 18, 1940, ranging from the contract low of $72,592 to $99,773.

LIST OF BIDDERS:

1. W. H. Scott, Inc., Franklin, Va. (contract) $72,592
2. Rea Construction Co., Charlotte, N. C. ..... 78,0[illegible]
3. R. K. Williams, Richmond, Va. ..... 79,2[illegible]
4. F. J. McGuire, Norfolk, Va. ..... 99,7[illegible]

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing and grubbing	3 ac.	$100.00	$100.00	$100.00
2. Regular excavation	10,317 c. y.	.25	.40	
3. Borrow excavation	674 c. y.	.15	.35	
4. Class C concrete	12 c. y.	25.00	20.00	
5. Conc. rt.-of-way monuments	13 ea.	2.00	2.00	
6. 15-in. conc. pipe	147 l. f.	1.30	1.25	
7. 18-in. pipe	96 l. f.	1.50	1.50	
8. 24-in. pipe	213 l. f.	2.50	2.60	
9. 12-in. pipe	333 l. f.	1.00	1.00	
10. 36-in. pipe	69 l. f.	6.00	5.00	
11. 15-in. conc. pipe	18 l. f.	1.30	1.30	
12. Relay 15-in. pipe	627 l. f.	1.50	.50	
13. Reset rt.-of-way monuments	25 ea.	1.00	1.00	
14. Standard catch basing	5 ea.	65.00	70.00	
15. Std. curb. drop inlets	3 ea.	60.00	50.00	
16. Standard drop inlet	1 ea.	50.00	70.00	
17. Curb catch basin	1 ea.	75.00	70.00	
18. F. A. project marker	2 ea.	4.00	3.00	
19. Subgrade underdrain, CD-1 or CD-2	252 l. f.	.50	.40	
20. 26-in. pipe, salv. and store	65 l. f.	1.00	1.30	
21. Gravel	2,262 c. y.	.75	.60	
22. Material for subgrade treatment	610 c. y.	.30	.30	
23. Concrete, retaining wall	219 c. y.	15.00	16.00	
24. Retaining wall and steps	10 c. y.	18.00	18.00	
25. Concrete gutter, 4½ ft. x 8-in.	665 l. f.	1.35	1.40	
26. Concrete gutter, 7½ ft. x 8-in.	168 l. f.	2.50	2.50	
27. Concrete gutter, 8-ft x 8-in.	72 l. f.	2.75	2.85	
28. Concrete curb and gutter	4,107 l. f.	1.40	1.35	
29. Concrete sidewalks	942 s. y.	1.30	1.40	
30. Reinforced concrete pavement	24,669 s. y.	2.00	2.17	
31. Covering material	446 ton	2.75	3.00	
32. Rapid curing asphalt, type 1-a	12,380 gal.	.07	.06	
33. Scarifying and reshaping	11,749 s. y.	.05	.05	